

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/015620

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> C07K14/47, 19/00, C12N15/12, 1/21, 5/10, C12P21/02, G01N33/53, A01K67/027, A61K38/17, 48/00, A61P9/10, 17/02, 17/06, 19/02, 21/00, 27/02, 27/06, 29/00, 35/00, 43/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> C07K14/47, 19/00, C12N15/12, 1/21, 5/10, C12P21/02, G01N33/53, A01K67/027, A61K38/17, 48/00, A61P9/10, 17/02, 17/06, 19/02, 21/00, 27/02, 27/06, 29/00, 35/00, 43/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MEDLINE (STN), BIOSIS (STN), WPIDS (STN), JICST FILE (JOIS), SwissProt/PIR/GeneSeq, Genbank/EMBL/DDBJ/GeneSeq

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	OISHIMA Y. et al., "Expression and localization of tenomodulin, a transmembrane type chondromodulin-I-related angiogenesis inhibitor, in mouse eyes.", Invest Ophthalmol Vis Sci., 2003 May, Vol.44, No.5, p.1814-23	1-8, 10-14, 20-26 1-26
Y	WO 01/23557 A1 (Teijin Ltd.), 05 April, 2001 (05.04.01), Examples; Figs. 1A, 1B & EP 1219710 A1 & CN 1402783 T & CA 2386141 A	9, 10, 12-14, 26 1-8, 11, 15-25
X	YAMANA K. et al., "Molecular cloning and characterization of CHM1L, a novel membrane molecule similar to chondromodulin-I.", Biochem.Biophys.Res.Commun., 2001, Vol.280, No. 4, p.1101-6	9, 10, 12-14, 26 1-8, 11, 15-25
Y		

 Further documents are listed in the continuation of Box C. See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
 "E" earlier application or patent but published on or after the international filing date  
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
 "O" document referring to an oral disclosure, use, exhibition or other means  
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
17 January, 2005 (17.01.05)

Date of mailing of the international search report  
01 February, 2005 (01.02.05)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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International application No.

PCT/JP2004/015620

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Y. HIRAKI et al., "Molecular cloning of human chondromodulin-I, a cartilage-derived growth modulating factor, and its expression in Chinese hamster ovary cells", Eur.J.Biochem., 1999, Vol.260, pages 869 to 878	1-26
Y	HIRAKI Y. et al., "Identification of chondromodulin I as a novel endothelial cell growth inhibitor. Purification and its localization in the avascular zone of epiphyseal cartilage.", J.Biol.Chem., 1997, Vol.272, No.51, p.32419-26	1-26
Y	HIRAKI Y., et al., "Inhibition of DNA synthesis and tube morphogenesis of cultured vascular endothelial cells by chondromodulin-I.", FEBS Lett., 1997, Vol.415, No.3, p.321-4	1-26
Y	HAYAMI T. et al., "Specific loss of chondromodulin-I gene expression in chondrosarcoma and the suppression of tumor angiogenesis and growth by its recombinant protein in vivo.", FEBS Lett., 1999, Vol.458, No.3, p.436-40	1-26
Y	LIU S. et al., "Removal of endotoxin from recombinant protein preparations", Clin.Biochem., 1997, Vol.30, No.6, p.455-63	15-19

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**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

The matter common to claims 1 to 26 resides in "human ChM". As the results of the search, however, it is clarified that "human ChM" is not novel because of having been disclosed in a document (WO 01/23557 A1 (Teijin Ltd.) 05 April, 2001 (05.04.01)). As a result, "human ChM" falls within the category of prior art and, therefore, the above common matter cannot be considered as a special technical feature. Thus, the inventions as set forth in claims 1 to 26 are divided as follows: the inventions as set forth in claims 1 to 17 and 20 to 26 having a special technical feature in "a polypeptide comprising the amino acid sequence represented by SEQ ID NO:9"; the inventions as set forth in claims 18 and 19 having a special technical feature (continued to extra sheet)

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

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Continuation of Box No.III of continuation of first sheet(2)

in "a process for producing recombinant human ChM-I or recombinant human ChM1L by using a recombinant host cell capable of expressing human ChM-I or human ChM1L".

A. 発明の属する分野の分類 (国際特許分類 (IPC))  
 Int. Cl. 7 C07K14/47, 19/00, C12N15/12, 1/21, 5/10, C12P21/02, G01N33/53, A01K67/027, A61K38/17, 48/00,  
 A61P9/10, 17/02, 17/06, 19/02, 21/00, 27/02, 27/06, 29/00, 35/00, 43/00

## B. 調査を行った分野

調査を行った最小限資料 (国際特許分類 (IPC))  
 Int. Cl. 7 C07K14/47, 19/00, C12N15/12, 1/21, 5/10, C12P21/02, G01N33/53, A01K67/027, A61K38/17, 48/00,  
 A61P9/10, 17/02, 17/06, 19/02, 21/00, 27/02, 27/06, 29/00, 35/00, 43/00

最小限資料以外の資料で調査を行った分野に含まれるもの

国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)

MEDLINE (STN) BIOSIS (STN) WPIDS (STN) JICSTファイル (JOIS)  
 SwissProt/PIR/GeneSeq Genbank/EMBL/DDBJ/GeneSeq

## C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
X	OSHIMA Y, et. al., "Expression and localization of tenomodulin, a transmembrane type chondromodulin-I-related angiogenesis inhibitor, in mouse eyes." Invest Ophthalmol Vis Sci., 2003 May, Vol. 44, No. 5, p. 1814-23.	1-8, 10-14, 20-26 1-26
Y		
X	WO 01/23557 A1(帝人株式会社)2001.04.05, 実施例, Fig. 1A, 1B & EP 1219710 A1 & CN 1402783 T & CA 2386141 A	9, 10, 12-14, 26
Y		1-8, 11, 15-25

C欄の続きにも文献が列挙されている。

パテントファミリーに関する別紙を参照。

## \* 引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの  
 「E」国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの  
 「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)  
 「O」口頭による開示、使用、展示等に言及する文献  
 「P」国際出願日前で、かつ優先権の主張の基礎となる出願

## の日の後に公表された文献

「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの  
 「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの  
 「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの  
 「&」同一パテントファミリー文献

国際調査を完了した日

17. 01. 2005

国際調査報告の発送日

01. 2. 2005

国際調査機関の名称及びあて先

日本国特許庁 (ISA/JP)

郵便番号 100-8915

東京都千代田区霞が関三丁目4番3号

特許庁審査官 (権限のある職員)

田中 晴絵

4 N 9739

電話番号 03-3581-1101 内線 3488

C (続き) 関連すると認められる文献		関連する 請求の範囲の番号
引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	
X	YAMANA K, et. al., "Molecular cloning and characterization of CHM1L, a novel membrane molecule similar to chondromodulin-I." Biochem Biophys Res Commun., 2001, Vol. 280, No. 4, p. 1101-6.	9, 10, 12-14, 26
Y		1-8, 11, 15-25
Y	Y. HIRAKI, et. al., "Molecular cloning of human chondromodulin-I, a cartilage-derived growth modulating factor, and its expression in Chinese hamster ovary cells" Eur J Biochem, 1999, Vol. 260, p. 869-878.	1-26
Y	HIRAKI Y, et. al., "Identification of chondromodulin I as a novel endothelial cell growth inhibitor. Purification and its localization in the avascular zone of epiphyseal cartilage." J Biol Chem., 1997, Vol. 272, No. 51p. 32419-26.	1-26
Y	HIRAKI Y, et. al., "Inhibition of DNA synthesis and tube morphogenesis of cultured vascular endothelial cells by chondromodulin-I." FEBS Lett., 1997, Vol. 415, No. 3, p. 321-4.	1-26
Y	HAYAMI T, et. al., "Specific loss of chondromodulin-I gene expression in chondrosarcoma and the suppression of tumor angiogenesis and growth by its recombinant protein in vivo." FEBS Lett., 1999, Vol. 458, No. 3, p. 436-40.	1-26
Y	LIU S, et. al., "Removal of endotoxin from recombinant protein preparations" Clin Biochem., 1997, Vol. 30, No. 6, p. 455-63.	15-19

## 第II欄 請求の範囲の一部の調査ができないときの意見（第1ページの2の続き）

法第8条第3項（PCT17条(2)(a)）の規定により、この国際調査報告は次の理由により請求の範囲の一部について作成しなかった。

1.  請求の範囲 \_\_\_\_\_ は、この国際調査機関が調査をすることを要しない対象に係るものである。  
つまり、
2.  請求の範囲 \_\_\_\_\_ は、有意義な国際調査をできる程度まで所定の要件を満たしていない国際出願の部分に係るものである。つまり、
3.  請求の範囲 \_\_\_\_\_ は、従属請求の範囲であってPCT規則6.4(a)の第2文及び第3文の規定に従って記載されていない。

## 第III欄 発明の単一性が欠如しているときの意見（第1ページの3の続き）

次に述べるようにこの国際出願に二以上の発明があるとこの国際調査機関は認めた。

請求の範囲1-26に共通の事項は「ヒトChM」である。しかしながら、調査の結果、「ヒトChM」は文献（WO 01/23557 A1（帝人株式会社）2001.04.05）に開示されているから、新規でないことが明らかとなつた。結果として、「ヒトChM」は先行技術の域をでないから、この共通事項は特別な技術的特徴とすることはできない。それ故、請求の範囲1-26に記載された発明は、請求の範囲1-17、20-26に記載される「配列番号9に記載のアミノ酸配列からなるポリペプチド」に特別な技術的特徴を有するものと、請求の範囲18、19に記載される「ヒトChM-I又はヒトChM1Lを発現可能な組み換え宿主細胞を用いて組み換えヒトChM-I又は組み換えヒトChM1Lを製造する方法」に特別な技術的特徴を有するものに分類される。

1.  出願人が必要な追加調査手数料をすべて期間内に納付したので、この国際調査報告は、すべての調査可能な請求の範囲について作成した。
2.  追加調査手数料を要求するまでもなく、すべての調査可能な請求の範囲について調査することができたので、追加調査手数料の納付を求めなかった。
3.  出願人が必要な追加調査手数料を一部のみしか期間内に納付しなかったので、この国際調査報告は、手数料の納付のあった次の請求の範囲のみについて作成した。
4.  出願人が必要な追加調査手数料を期間内に納付しなかったので、この国際調査報告は、請求の範囲の最初に記載されている発明に係る次の請求の範囲について作成した。

## 追加調査手数料の異議の申立てに関する注意

- 追加調査手数料の納付と共に出願人から異議申立てがあった。
- 追加調査手数料の納付と共に出願人から異議申立てがなかった。